

Patent claims

1. Reflected-light microscope comprising: a light source to generate an illumination light beam that can be directed through a lens that exhibits a pupil
5 lens on a pupil plane, along an illumination beam path and onto a sample, and an imaging optic that generates an optically corresponding plane to the pupil plane, in which case at least one attenuation element that acts in an essentially uniform manner over the entire cross-section of the illumination light beam can be introduced into the illumination beam path on the optically corresponding plane.
- 10 2. Reflected-light microscope according to claim 1, wherein the attenuation element exhibits a grate structure or a sieve structure or a pinhole pattern.
3. Reflected-light microscope according to claim 1, wherein the attenuation element exhibits a color filter.
- 15 4. Reflected-light microscope according to claim 1, wherein at least one attenuation element exhibits a diffusion disk.
5. Reflected-light microscope according to one of claims 1 to 4, wherein at least one attenuation element is produced by lithography.
6. Reflected-light microscope according to one of claims 1 to 5,
20 wherein at least one attenuation element is arranged in a storage mechanism.
7. Reflected-light microscope according to claim 6, wherein the storage mechanism is a turret or a push slide or a rotatable disk.
8. Reflected-light microscope according to one of claims 6 or 7, wherein the storage mechanism holds several attenuation elements that exhibit
25 different degrees of attenuation.

9. Reflected-light microscope according to one of claims 6 to 8, wherein the storage mechanism exhibits a neutral position that permits the illumination light beam to pass unaffected.

10. Reflected-light microscope according to one of claims 6 to 9,
5 wherein the storage mechanism exhibits a blocking position that interrupts the illumination beam path.

11. Reflected-light microscope according to one of claims 6 to 10, wherein a drive mechanism is provided that controls the storage mechanism.

12. Reflected-light microscope according to claim 11, wherein the drive
10 mechanism comprises a stepping motor.

13. Reflected-light microscope according to claim 11, wherein a control mechanism is provided that controls the drive mechanism.

14. Reflected-light microscope according to one of claims 1 to 13,
15 wherein the illumination light beam is automatically attenuated or blocked during lens changes.

15. Reflected-light microscope according to one of claims 1 to 14, wherein at least one exchangeable optical element is arranged in the illumination beam path, in which case the illumination light beam is automatically attenuated or blocked while the optical element is being exchanged.

20 16. Reflected-light microscope according to one of claims 1 to 15, wherein the reflected-light microscope is a fluorescence microscope.